

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-5 (Canceled).

Claim 6 (Currently Amended): A process for the preparation of cephalexin, comprising:

contacting an aqueous solution, comprising:

(i) 7-aminodeacetoxycephalosporanic acid, and

(ii) D-phenylglycinamide,

in a ratio from 1:2 to 2:1, with a coated carrier, and

wherein the carrier comprises crosslinked hydrophilic carrier polymer materials which are able to form covalent bonds in a polymer-analogous reaction with ~~have binding activity for ligands having~~ nucleophilic groups of ligands, are in bead form and can be prepared by inverse bead polymerization of a monomer phase which consists of monomers and a diluent, and

wherein the monomers are:

(a) 5-40% by weight of hydrophilic monomers which are capable of free-radical polymerization, have a vinyl group and form at least 10% strength aqueous solutions at room temperature,

(b) 30-50% by weight of monomers which are capable of free-radical polymerization and have a vinyl group and an additional functional group which is able to enter into covalent bonds in a polymer-analogous reaction with the nucleophilic groups of the ligands,

(c) 20-60% by weight of crosslinking monomers which are capable of free-radical polymerization and have two or more ethylenically unsaturated polymerizable groups, and

with the proviso that a), b) and c) add up to 100% by weight, and

wherein the diluent is a mixture of methanol and water in the ratio from 1:1.0 to 1:4.0, and

wherein the monomer phase is dispersed to droplets in a continuous phase ~~composed of comprising~~ an organic solvent ~~composed of comprising~~ an aliphatic hydrocarbon having 5-7 carbon atoms, and where the ratio of monomer phase to continuous phase is from 1:2.0 to 1:4.0, and in this form undergo free-radical polymerization in the presence of a polymerization initiator and of a protective colloid, with the proviso that the ratio of the monomers to the diluent is from 1:1.7 to 1:2.4, and

wherein the carrier polymer materials are coated with penicillin amidase to form the coated carrier.

Claim 7 (Previously Presented): The process as claimed in claim 6, wherein the monomers are:

- a) acrylamide and/or methacrylamide
- b) glycidyl methacrylate and/or allyl glycidyl ether
- c) N,N'-methylenebisacrylamide or N,N'-methylene-bismethacrylamide.

Claim 8 (Previously Presented): The process as claimed in claim 6, wherein the organic solvent is cyclohexane.

Claim 9 (Previously Presented): The process as claimed in claim 6, wherein the penicillin amidase is derived from E. coli.

Claim 10 (Currently Amended): A process for the synthesis of cephalexin, comprising:

contacting the reactants for cephalexin with a carrier material, and

wherein the carrier material comprises crosslinked hydrophilic carrier polymer materials which are able to form covalent bonds in a polymer-analogous reaction with ~~have binding activity for ligands having nucleophilic groups of ligands,~~ are in bead form and can be prepared by inverse bead polymerization of a monomer phase which consists of monomers and a diluent, and

wherein the monomers are:

(a) 5-40% by weight of hydrophilic monomers which are capable of free-radical polymerization, have a vinyl group and form at least 10% strength aqueous solutions at room temperature,

(b) 30-50% by weight of monomers which are capable of free-radical polymerization and have a vinyl group and an additional functional group which is able to enter into covalent bonds in a polymer-analogous reaction with the nucleophilic groups of the ligands,

(c) 20-60% by weight of crosslinking monomers which are capable of free-radical polymerization and have two or more ethylenically unsaturated polymerizable groups, and

with the proviso that a), b) and c) add up to 100% by weight, and

wherein the diluent is a mixture of methanol and water in the ratio from 1:1.0 to 1:4.0,

and

wherein the monomer phase is dispersed to droplets in a continuous phase ~~composed~~
~~of comprising~~ an organic solvent ~~composed of comprising~~ an aliphatic hydrocarbon having 5-
7 carbon atoms, and where the ratio of monomer phase to continuous phase is from 1:2.0 to
1:4.0, and in this form undergo free-radical polymerization in the presence of a
polymerization initiator and of a protective colloid, with the proviso that the ratio of the
monomers to the diluent is from 1:1.7 to 1:2.4.

Claim 11 (Canceled):

Claim 12 (New): The process as claimed in claim 6, wherein the monomers a) are
methacrylamide.

Claim 13 (New): The process as claimed in claim 6, wherein the monomers b) are
glycidyl methacrylate and allyl glycidyl ether.

Claim 14 (New): The process as claimed in claim 6, wherein the monomers c) are
N,N'-methylene-bismethacrylamide.

Claim 15 (New): The process as claimed in claim 6, wherein the carrier polymer
material has a size of from 50 to 500 μ m.

Claim 16 (New): The process as claimed in claim 6, wherein the carrier polymer
material has a size of from 120 to 250 μ m.

Claim 17 (New): The process as claimed in claim 10, wherein the monomers a) are methacrylamide.

Claim 18 (New): The process as claimed in claim 10, wherein the monomers b) are glycidyl methacrylate and allyl glycidyl ether.

Claim 19 (New): The process as claimed in claim 10, wherein the monomers c) are N,N'-methylene-bismethacrylamide.

Claim 20 (New): The process as claimed in claim 10, wherein the carrier polymer material has a size of from 50 to 500 μ m.

Claim 21 (New): The process as claimed in claim 10, wherein the carrier polymer material has a size of from 120 to 250 μ m.

BASIS FOR THE AMENDMENT

Claim 11 has been canceled. Claims 6 and 10 have been amended as supported by the claims and specification as originally filed.

New Claims 12-21 have been added as supported by the Claims as originally filed and at page 8, lines 35-37 of the specification.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 6-10 and 12-21 will now be active in this application.

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